

AMENDMENT TO CLAIMS

1. (Cancelled)

2. (Currently amended) A combination bovine rotavirus and coronavirus vaccine capable of inducing immunity in bovine animals without serious side effects, the combination vaccine comprising a vaccinal amount of a plurality of inactivated bovine rotavirus strains, at least one inactivated bovine coronavirus strain, and ~~The combination vaccine of claim 1, further comprising at least one vaccinal bacteria.~~

3-4. (Cancelled)

5. (Currently amended) The combination vaccine of claim ~~[[1]]~~ 2, wherein said rotavirus strains comprise Cody 81-4, G type10 B223 and B641 and the coronavirus strain comprises the Mebus strain having ATCC accession no. VR-874.

6. (Original) The combination vaccine of claim 2, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains and at least one *Clostridium perfringens* Type C bacterin strain.

7. (Cancelled)

8. (Currently amended) The combination vaccine of claim ~~[[7]]~~ 5, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains and at least one *Clostridium perfringens* Type C bacterin strain.

9. (Original) The combination vaccine of claim 6, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.

10. (Original) The combination vaccine of claim 8, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.

11. (Previously presented) The combination vaccine of claim 6, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.

12. (Previously presented) The combination vaccine of claim 8, wherein said *Cl. perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.

13. (Previously presented) The combination vaccine of claim 6, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141 and said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.

- 10 ~~14~~. (Previously presented) The combination vaccine of claim 8, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141 and said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 15-21. (Cancelled)
- 11 ~~22~~. (Currently amended) A method of vaccinating bovine animals comprising administering parenterally to said animals the combination vaccine of claim 1, ~~2, 5-8, 13, or 14~~ 2, 5, 6, 8, 13, or 14.
- 12 ~~23~~. (Original) The method of claim 22, wherein the vaccine is administered by intramuscular injection.
- 13 ~~24~~. (Original) The method of claim 22, wherein the vaccine is administered by subcutaneous injection.
- 14 ~~25~~. (Currently amended) A method of vaccinating bovine animals comprising administering parenterally to said animals ~~a an-inactivated~~ combination bovine rotavirus and bovine coronavirus vaccine capable of inducing immunity in bovine animals without serious side effect, the combination vaccine comprising a vaccinal amount of a plurality of inactivated bovine rotavirus strains, ~~[[and]]~~ at least one inactivated bovine coronavirus strain, and at least one vaccinal bacteria an-adjuvant.
26. (Cancelled)
- 15 ~~27~~. (Currently amended) The method of claim ~~[[26]]~~ 25, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains and at least one *Clostridium perfringens* Type C bacterin strain.
- 28-29. (Cancelled)
- 16 ~~30~~. (Original) The method of claim 25, wherein said rotavirus strains comprise Cody 81-4, G type 10B223 and B641.
- 17 ~~31~~. (Original) The method of claim 25, wherein the coronavirus strain comprises the Mebus strain having ATCC accession no. VR-874.
- 18 ~~32~~. (Original) The method of claim 25, wherein the rotavirus strains comprise Cody 81-4, G type 10B223 and B641 and the coronavirus strain comprises the Mebus strain having ATCC accession no. VR-874.

- 19 ~~33~~. (Original) The method of claim 27, wherein the *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 20 ~~34~~. (Previously presented) The method of claim 27, wherein the *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 21 ~~35~~. (Previously presented) The method of claim 27, wherein the *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141 and the *Clostridium perfringens* bacterin strain comprises a GL47 having ATCC accession no. PTA-3000.
- 36-39. (Cancelled)
- 22 ~~40~~. (Currently amended) The method of claim ~~25-27, 32, or 35~~ 25, 27, 30-35 or 67-78, wherein the vaccine is administered by intramuscular injection.
- 23 ~~41~~. (Currently amended) The method of claim ~~25-27, 32, or 35~~ 25, 27, 30-35 or 67-78, wherein the vaccine is administered by subcutaneous injection.
- 24 ~~42~~. (Currently amended) The combination vaccine of claim ~~1, 2, 5-8, 13, 14, 25-27, 32 or 35~~ 2, 5, 6, 8-14, 40, 41, or 49-66, wherein the virus is inactivated with an inactivating agent selected from beta-propiolactone, formalin, ethyleneimine derivatives, UV radiation and heat.
- 25 ~~43~~. (Original) The vaccine of claim 42, wherein said inactivating agent is beta-propiolactone.
- 26 ~~44~~. (Currently amended) The combination vaccine of claim ~~1, 2, 5-8, 13, 14, 25-27, 32 or 35~~ 2, 5, 6, 8-14, 40, 41, or 49-66 further comprising an adjuvant, wherein the adjuvant is selected from oil based adjuvants, Freund's incomplete, alginate, aluminum hydroxide gel and potassium alum.
- 27 ~~45~~. (Original) The vaccine of claim 44, wherein the adjuvant is an oil based adjuvant.
- 28 ~~46~~. (Original) The vaccine of claim 42 or 44, wherein said inactivating agent comprises β -propiolactone and said adjuvant comprises an oil based adjuvant.
- 29 ~~47~~. (Currently amended) A method of inducing scours immunity in neonatal bovine animals without serious side effect comprising the steps of administering the combination vaccine of claims ~~1, 2, 5-8, 13, 14, 25-27, 32 or 35~~ 2, 5, 6, 8-14 or 49-66 to pregnant cows prior to calving.
- 30 ~~48~~. (Currently amended) The method of claim 47, further comprising administering a second dose of the combination vaccine of claims ~~1, 2, 5-8, 13, 14, 25-27, 32 or 35~~ 2, 5, 6, 8-14 or 49-66 to pregnant cows prior to calving.

- 31 ~~49.~~ (New) The combination vaccine of claim 2 wherein said vaccinal bacteria comprises a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 32 ~~50.~~ (New) The combination vaccine of claim 49, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 33 ~~51.~~ (New) The combination vaccine of claim 2 wherein said vaccinal bacteria comprises a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 34 ~~52.~~ (New) The combination vaccine of claim 51, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 35 ~~53.~~ (New) The combination vaccine of claim 5 wherein said vaccinal bacteria comprises a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 36 ~~54.~~ (New) The combination vaccine of claim 53, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 37 ~~55.~~ (New) The combination vaccine of claim 5 wherein said vaccinal bacteria comprises a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 38 ~~56.~~ (New) The combination vaccine of claim 55, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 39 ~~57.~~ (New) The combination vaccine of claim 2 wherein said rotavirus strains comprise Cody 81-4, G type10 B223 and B641.
- 40 ~~58.~~ (New) The combination vaccine of claim 57 wherein said vaccinal bacteria comprises a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 41 ~~59.~~ (New) The combination vaccine of claim 58, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 42 ~~60.~~ (New) The combination vaccine of claim 57 wherein said vaccinal bacteria comprises a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 43 ~~61.~~ (New) The combination vaccine of claim 60, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 44 ~~62.~~ (New) The combination vaccine of claim 2 wherein said the coronavirus strain comprises the Mebus strain having ATCC accession no. VR-874.

- 45 ~~63.~~ (New) The combination vaccine of claim 62 wherein said vaccinal bacteria comprises a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 46 ~~64.~~ (New) The combination vaccine of claim 63, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 47 ~~65.~~ (New) The combination vaccine of claim 62 wherein said vaccinal bacteria comprises a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 48 ~~66.~~ (New) The combination vaccine of claim 65, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 49 ~~67.~~ (New) The method of claim 25, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 50 ~~68.~~ (New) The method of claim 67, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 51 ~~69.~~ (New) The method of claim 25, wherein said vaccinal bacteria comprise a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 52 ~~70.~~ (New) The method of claim 69, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 53 ~~71.~~ (New) The method of claim 30, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 54 ~~72.~~ (New) The method of claim 71, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.
- 55 ~~73.~~ (New) The method of claim 30, wherein said vaccinal bacteria comprise a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.
- 56 ~~74.~~ (New) The method of claim 73, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.
- 57 ~~75.~~ (New) The method of claim 31, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.
- 58 ~~76.~~ (New) The method of claim 75, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.

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~~77.~~ (New) The method of claim 31, wherein said vaccinal bacteria comprise a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.

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~~78.~~ (New) The method of claim 77, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.

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~~79.~~ (New) The method of claim 32, wherein said vaccinal bacteria comprise a vaccinal amount of a plurality of *Escherichia coli* bacterin strains.

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~~80.~~ (New) The method of claim 79, wherein said *Escherichia coli* bacterin strains comprise B41, B43, B44 and B141.

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~~81.~~ (New) The method of claim 32, wherein said vaccinal bacteria comprise a vaccinal amount of at least one *Clostridium perfringens* Type C bacterin strain.

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~~82.~~ (New) The method of claim 81, wherein said *Clostridium perfringens* bacterin strain comprises GL47 having ATCC accession no. PTA-3000.